

IN THE CLAIMS:

These claims will replace all prior versions of claims in the present application.

1. (Previously presented) A reforming method comprising two or more reforming rooms connected in series, in which a gas mixture comprising a fuel, water and air is supplied to one end thereof and a reformed gas containing hydrogen is discharged from the other end thereof, wherein

a first catalyst that catalyzes a partial oxidation reaction in an oxygen environment is loaded into the upstream end of each of the reforming rooms, and a second catalyst for the reforming reaction is charged into the downstream portion thereof, and

the gas mixture is supplied directly to one end of each reforming room, and the reformed gas is discharged from the other end of the furthest downstream reforming room.

2. (Previously presented) The reforming method specified in Claim 1, wherein the same catalyst that can catalyze both the partial oxidation and reforming reactions is used as the first and second catalysts.

3. (Previously presented) The reforming method specified in Claim 1, comprising a reforming tube composed of two or more of the reforming rooms connected in series, and a reformer housing that encases the reforming tube, wherein

a high-temperature heating gas is introduced into the space formed between the reforming tubes and the reformer housing, and after the first catalyst and the second catalyst have been heated up from outside the reforming room, the gas mixture is supplied to each reforming room to undergo reforming.

4. (Previously presented) The reforming method specified in Claim 3, wherein the high-temperature heating gas is supplied directly to one end of each of the reforming rooms and is discharged from the other end of the furthest downstream reforming rooms, and after the first and second catalyst are heated up from inside the reforming rooms, the gas mixture is supplied to each reforming room to undergo reforming.

5. (Previously presented) A reforming apparatus comprising
a mixed gas feed tube that supplies a gas mixture composed of a fuel, water and air,
and

a reforming tube that converts the gas mixture into a reformed gas containing
hydrogen, wherein

the reforming tube comprises two or more reforming rooms connected together in series, in which the gas mixture is supplied to one end and the reformed gas is discharged from the other end thereof,

each of the reforming rooms is filled with a first catalyst that catalyzes a partial oxidation reaction in an oxygen environment in the upstream portion thereof, and with a second catalyzer for reforming in the downstream portion, and

gas feed means is provided on the mixed gas feed tube, that directly supplies the gas mixture to each reforming room.

6. (Previously presented) The reforming apparatus specified in Claim 5, wherein the gas feed means comprises an outer cylinder that covers one end of the reforming tube and at least a part of the side surface thereof, and forms a gap around the reforming tube in the peripheral direction that works as a passage for the gas mixture,

inlet ports are disposed on the side surface of the reforming tube and supply the gas

mixture to each reforming room from the gap, and

the inlet ports comprise flow control mechanisms or flow regulate means for adjusting the flow of the gas mixture supplied to each reforming room.

7. (Previously presented) The reforming apparatus specified in Claim 5, wherein the gas feed means comprises a hollow penetration tube for passing the gas mixture through the interior of at least one of the reforming rooms, from one end thereof in the downstream direction of the reforming tube,

the penetration tube comprises inlet ports to supply the gas mixture individually to each reforming room, and

the inlet ports comprise flow control mechanisms or flow regulate means for adjusting the flow of the gas mixture introduced into each reforming room.

8. (Previously presented) The reforming apparatus specified in Claim 5, comprising a reformer housing that encases the reforming tube, and a first heating gas tube for introducing a high-temperature heating gas into the space formed between the reformer housing and the reforming tube, from the outside.

Claims 9-16 (Cancelled)

17. (Previously presented) A reforming method comprising the steps of:

(a) providing two or more reforming rooms connected in series in a reforming apparatus, in which a gas mixture comprising a fuel, water and air is supplied to one end thereof and a reformed gas containing hydrogen is discharged from the other end thereof, wherein

a first catalyst that catalyzes a partial oxidation reaction in an oxygen environment is loaded into an upstream end of each of the reforming rooms, and a second catalyst for the reforming reaction is charged into a downstream portion thereof;

- (b) supplying the gas mixture directly to one end of each reforming room; and
- (c) discharging the reformed gas from the other end of the furthest downstream reforming room, wherein the reforming apparatus comprises:
 - i. a mixed gas feed tube that supplies the gas mixture composed of a fuel, water and air;
 - ii. a reforming tube that converts the gas mixture into the reformed gas containing hydrogen, wherein the reforming tube comprises the two or more reforming rooms connected together in series, in which the gas mixture is supplied to one end and the reformed gas is discharged from the other end thereof, and each of the reforming rooms is filled with the first catalyst that catalyzes the partial oxidation reaction in the oxygen environment in the upstream portion thereof, and with the second catalyzer for reforming in the downstream portion; and
 - iii. gas feed means provided on the mixed gas feed tube, which directly supplies the gas mixture to each reforming room.